Claims

1. A language-processing system, including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a
5   device for linking the lexically assigned speech to form a statement, **wherein** the extractor assigns to the speech being processed concepts (concepts are, for example, objects, events, characteristics (categories), in which concepts, features, and/or more complex structures are assigned to a variable, so that, as a result of these structures, such as concepts, features, and/or more complex structures, the corresponding concept
10   is filled with life and thus can be understood).

2. A language-processing system, including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement, **wherein** the
15   extractor reduces the speech being processed to basic forms, i.e., to infinitives, nouns, etc. (it is possible to ignore syntax because the meaning is derived from the achieved linking of the concepts; this is faster and simpler and permits the reconstruction of meaning even in the case of inputs that are incomplete or syntactically/grammatically false; on the other hand, it is also possible to take into account grammatical and
20   syntactic rules for linking concepts especially in the case of ambiguities that cannot be resolved semantically).

3. A language-processing system, including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a
25   device for linking the lexically assigned speech to form a statement, **wherein** the extractor has access to a separate, global knowledge base (world knowledge).

4. A language-processing system, including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a
30   device for linking the lexically assigned speech to form a statement, **wherein** the

connector in an iterative manner links the lexically assigned speech, especially concepts, to form a statement.

5. A language-processing system, including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement, **wherein** the connector links the concepts that were assigned in accordance with the verbal input, forming a statement.

6. The language-processing system as recited in Claim 5, **wherein** unlinked concepts are marked and, advantageously, an error condition is assumed if the number of unlinked concepts exceeds a predefined number.

7. A language-processing system, including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement, **characterized by** a conflict module, a feedback module, an expert device for risk analysis, a virtual realizer for realizing the reconstructed meaning, a modifier, that is attached downstream of the connector, for any necessary change of the concepts contained in the statement arrived at in the connector, and/or an anticipator for calling up any subsequent events--as processing modules.

8. A language-processing system, including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement, **wherein** the connector conveys the unlinkable parts of the speech being linked, especially the unlinkable concepts, and/or added words or concepts to a feedback module for checking by the user or by another external agent.

9. A language-processing system, including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a

device for linking the lexically assigned speech to form a statement, **characterized by** a command generator, which assigns commands to concepts.

10. The language-processing system as recited in Claim 9, **wherein** the assigned commands of the command generator in their conceptual structures correspond to the conceptual structure of the concepts used by the connector.

11. A language-processing system, including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement, **characterized by** a situation model, which is linked to the extractor, the connector, and/or at least one other processing module of the language-processing system, such that concepts or statements that are located in the extractor, the connector, and/or the other processing module are evaluated in accordance with the condition of the situation model.

12. The language-processing system as recited in Claim 11, **wherein** the situation model is linked to the extractor, the connector, and/or at least one other processing module, such that concepts or statements located in the extractor, the connector, and/or the other processing module alter the condition of the situation model.

13. The language-processing system as recited in Claim 11 or 12, **wherein** the situation model has an interface to a measuring device. (In this way, CES obtains "eyes" or "a sense of touch" which make possible an external input, or a check of actual circumstances with reference to anticipated circumstances.)

14. The language-processing system as recited in Claim 13, **wherein** the interface assigns concepts to the measuring values, and these measuring values and/or system conditions of downstream technical installations are represented by concepts in the situation model.

15. A language-processing system, including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement, **characterized by** an ALI module, which contains a quantity of cognitive routines of various categories,

5   and especially makes available routines for the extraction of meaning, context-bound modification, context-bound association, and logical processes (inferences), and makes them available to the extractor, the connector, and/or another module of this language-processing system.

10   16. The language-processing system as recited in Claim 15, **wherein** the ALI module, which makes available the cognitive routines to the specific querying processing module as a function of the categories being processed.

17. The language-processing system as recited in Claim 15 or 16, **wherein** the ALI

15   module makes available routines for the extraction of meaning, which have recourse to a situation model, a memory for a global knowledge base, and/or a memory for expert knowledge.

18. The language-processing system as recited in any one of Claims 15-17, **wherein**

20   the ALI module or its cognitive routines have recourse to the world knowledge, situation model, and/or expert knowledge modules (for the routines themselves but also for the selection of the appropriate routines).

19. A method for assigning acoustical and/or written character strings to words or

25   lexical entries, especially for speech recognition or for handwriting recognition, **wherein** at least in the event of an unclear or erroneous recognition of words and/or lexical entries or in response to the presence of multiple possible alternatives, recourse is had to a system as recited in Claims 1 through 18.

30   20. A method for flight or taxiway safety, **wherein** speech instructions, preferably issued by a system as recited in Claims 1 through 18, are grasped in their meaning and

anticipated in their consequences. (Thus conflicts that arise between different speech instructions, on the one hand, as well as between verbally provided instructions and the actions resulting therefrom in airplanes, on the other hand, can be recognized so that warnings can be issued).

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21. The method as recited in Claim 20, **characterized by** a machine-type understanding of the flight or taxiway situation.

22. The method as recited in Claim 21, **wherein** the comprehended flight or taxiway

10   situation is taken into account or also processed in an anticipatory manner, in foreseeing the consequences.